



## Welcome to Ground Work

### Biologicals in Foliars

6/14/2012

This time of the year, after the crop has emerged and is growing rapidly, we have a chance to perhaps improve the outcome of the yield by applying a foliar.

We tend to think of applying a foliar for the purpose of feeding the plant more nutrients. We would like to encourage you to also think about the microbiology present on the surfaces of the plant; in particular on the leaf surfaces.

The aerial habitat colonized by the microbes is termed the phyllosphere and the inhabitants are called epiphytes. The epiphytes are an important part of the success in growing a profitable crop.

The parts of the plant above ground are colonized by a variety of bacteria, yeasts and fungi. Bacteria are far and away the most prominent inhabitant.

Carbon sources and nutrients on the leaves feed these microbes. The sources of food come from simple leakages (glucose, fructose and sucrose) within the plant and leaf. This relationship is much the same as the mutual relationship of the soil organisms and the root excretions.

Using AgriEnergy's **SP-1™** in foliar fertilizer is beneficial for nutrient cycling just as it is when used in the soil. Many of the foliar fertilizer products we use, such as fish and humic acids, are not completely plant available and must be broken

down microbially before many of their nutrients can be absorbed through the leaf's tissues. This is particularly true of nutrients like the fine calcium/phosphorus particles (bone) that are suspended in some fish products.

A good example of how **SP-1™** enhances nutrient cycling was documented on foliar trials run on an alfalfa/grass field in southern Minnesota. Those trials yielded the following results:

- Control (no fertilizer) – RFV (Relative Feed Value) of 101
- With 3 gal/acre Dramm fish – RFV of 163
- With **SP-1™** added to the Dramm fish – RFV of 181

It is also beneficial to include **SP-1™** in foliar products which are true solutions (hence fully plant available). **SP-1™** is beneficial here because it can buffer those fertilizers. Put another way, including **SP-1™** increases the odds that these types of foliar fertilizer applications will be effective and profitable over a wider range of environmental conditions at the time they are sprayed. Products that are a little too salty, a little too acid, or contain a bit too much ammonium are buffered, or "safened", by **SP-1™**. **SP-1™** makes clear fertilizer products easier to use.

***Make sure you utilize the benefits of SP-1™ in your fertility programs throughout the growing season. The microbes in SP-1™ will benefit your crops, both in the soil and on the leaf surface. Including SP-1™ in foliar applications this summer will put beneficial microbes to work on, and under, your plants.***

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Mark Your Calendars ...

### **Advanced Biological Solutions Field Day**

Wednesday, September 12, 2012

9:30 AM – 4:00 PM

Besecker Farm

5196 and 5136 Hogpath Road

**Greenville, Ohio 45331**

***AgriEnergy Resources fertility demonstration plots. A diverse cover crop variety plot. Replicated plots of nine soybean varieties from Blue River and Great Harvest Organics, and 24 corn varieties from American Organic, Blue River Hybrids, Doeblers, Great Harvest Organics, Masters Choice and Merit Seeds.***

**For more information, contact AgriEnergy Resources Dealer Tom A. Besecker at 937-459-5104.**